

SAMSUNG

CONFIDENTIAL

TFT-LCD MONITOR

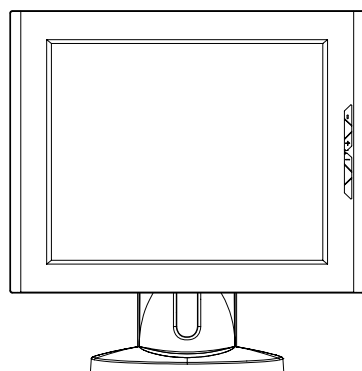
Chassis	Model
GH17A*	171N
GH17L*	171s
(GH17L***J/***)	

SERVICE Manual

TFT-LCD MONITOR



GH17A*



GH17L***J/***

CONTENTS

1. Precautions
2. Product Specifications
3. Disassembly & Reassembly
4. Alignments & Adjustments
5. Troubleshooting
6. Exploded View & Parts List
7. Electrical Parts List
8. Block Diagram
9. Wiring Diagram
10. Schematic Diagrams
11. Panel Description

2 Product Specifications

2-1 Specifications

Item	Description
LCD Panel	TFT-LCD panel, RGB vertical stripe, normally black transmissive, 17-Inch viewable, 0.264 mm pixel pitch
Scanning Frequency	Horizontal : 30 KHz ~ 81 KHz (Automatic) Vertical : 56 Hz ~ 75 Hz (~XGA)
Display Colors	16,2 Million colors
Maximum Resolution	Horizontal : 1280 Pixels Vertical : 1024 Pixels
Input Video Signal	Analog, 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated
Input Sync Signal	Type : Separate H/V sync, Composite H/V, Sync-on-Green (option) Level : TTL level (V high \geq 2.0 V, V low \leq 0.8 V), Sync-on-Green (\leq -0.25 V)
Maximum Pixel Clock rate	135 MHz
Active Display Horizontal/Vertical	338 \pm 3 mm / 270 \pm 3 mm
AC power voltage & Frequency	AC 90 ~ 264 Volts, 60/50 Hz \pm 3 Hz
Power Consumption	42 W (max), 40W (normal)
Dimensions Unit (W x D x H) Carton (W x D x H)	14.5 x 7.5 x 12.2 Inches (368.2 x 190.5 x 310.1 mm) 17.6 x 10.2 x 18.5 Inches (448 x 260 x 470 mm)
Weight (Net/Gross)	5.1 kg (11.2 lbs) / 6.4 kg (14.1 lbs)
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Humidity : 10 % ~ 80 % Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Humidity : 5 % ~ 95 %
<ul style="list-style-type: none"> GH17A*/GH17L***J comply with SWEDAC (MPRII) recommendations for reduced electromagnetic fields. Designs and specifications are subject to change without prior notice. 	

2-2 Pin Assignments

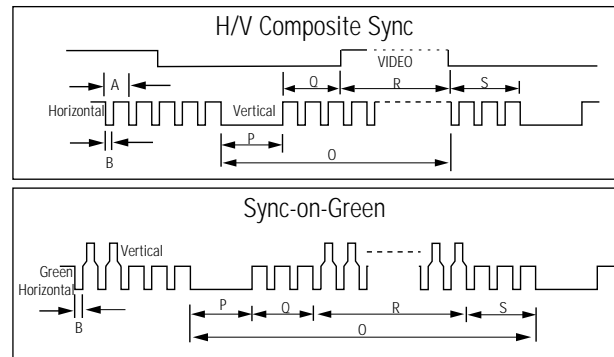
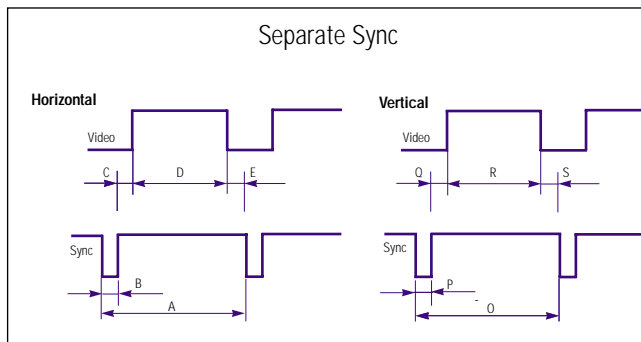
Pin No.	Sync Type	15-Pin D-Sub Signal Cable Connector		
		Separate	Composite	Sync-on-green
1		Red	Red	Red
2		Green	Green	Green + H/V Sync.
3		Blue	Blue	Blue
4		GND	GND	GND
5		DDC Return (GND)	DDC Return (GND)	DDC Return (GND)
6		GND-R	GND-R	GND-R
7		GND-G	GND-G	GND-G
8		GND-B	GND-B	GND-B
9		DDC Power Input (+5V)	DDC Power Input (+5V)	DDC Power Input (+5V)
10		Self Raster	Self Raster	Self Raster
11		GND	GND	GND
12		Bi-Dr Data (SDA)	Bi-Dr Data (SDA)	Bi-Dr Data (SDA)
13		H-Sync.	H/V-Sync.	Not Used
14		V-Sync.	Not Used	Not Used
15		DDC Clock (SCL)	DDC Clock (SCL)	DDC Clock (SCL)

2-3 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

Table 2-1 Timing Chart

Mode Timing	IBM		VESA								
	VGA2/70 Hz 720 x 400	VGA3/60 Hz 640 x 480	640/75 Hz 640 x 480	640/85 Hz 640 x 480	800/75 Hz 800 x 600	800/85 Hz 800 x 600	1024/60Hz 1024 x 768	1024/75Hz 1024 x 768	1024/85Hz 1024x768	1280/76Hz 1280x1024 (Analog Only)	1280/75Hz 1280x1024 (Analog Only)
fH (kHz)	31.469	31.469	37.500	43.269	46.875	53.674	48.363	60.023	68.677	81.129	79.976
A μ sec	31.777	31.778	26.667	23.111	21.333	18.631	20.677	16.660	14.561	16.640	12.504
B μ sec	3.813	3.813	2.032	1.556	1.616	1.138	2.092	1.219	1.016	6.400	1.067
C μ sec	1.589	1.589	3.810	2.222	3.232	2.702	2.462	2.235	2.201	2.880	1.837
D μ sec	26.058	26.058	20.317	17.778	16.162	14.222	15.754	13.003	10.836		9.481
E μ sec	0.318	0.318	0.508	1.556	0.323	0.569	0.369	0.203	0.508	3.200	0.119
fV (Hz)	70.087	59.940	75.000	85.008	75.000	85.061	60.004	75.029	84.997	76.106	75.025
O msec	14.268	16.683	13.333	11.764	13.333	11.756	16.666	13.328	11.765	10.660	13.329
P msec	0.064	0.064	0.080	0.671	0.064	0.056	0.124	0.050	0.044	0.080	0.038
Q msec	0.858	0.794	0.427	0.578	0.448	0.503	0.600	0.466	0.524	3.200	0.475
R msec	13.155	15.761	12.800	11.093	12.800	11.179	15.880	12.795	11.183		12.804
S msec	0.191	0.064	0.027	0.023	0.021	0.019	0.062	0.017	0.015	0.020	0.013
Clock Freq. (MHz)	28.322	25.175	31.500	49.500	49.500	56.250	75.000	78.750	94.500	135.000	135.000
Polarity H.Sync	Negative	Negative	Negative	Negative	Positive	Positive	Negative	Positive	Positive	Negative	Positive
V.Sync	Positive	Negative	Negative	Negative	Positive	Positive	Negative	Positive	Positive	Negative	Positive
Remark	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Separate	Com.	Separate



A : Line time total

B : Horizontal sync width

O : Frame time total

P : Vertical sync width

C : Back porch

D : Active time

Q : Back porch

R : Active time

E : Front porch

S : Front porch

3 Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the GH17A*/GH17L***J TFT-LCD monitors.

WARNING: This monitor contains electrostatically sensitive devices. Use caution when handling these components.

3-1 Disassembly (GH17A*)

Cautions: 1. Disconnect the monitor from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.

3-1-1 Removing the Stand

1. With a pad beneath it, stand the monitor on its front with the screen facing downward and the base close to you. Make sure nothing will damage the screen.
2. Remove the 4 screws on the Stand.

Caution: Be careful. The signal cable and power cable are still attached to the monitor.

3. Disconnect the Signal Cable and Power Cord.

3-1-2 Main Body Disassembly

1. Pull the Rear Cover up and off the monitor.
2. Disconnect the Function PCB wire (8P) between the Function PCB and the CN108 connector on the Main PCB.
3. Remove 10 screws on the PCB Shield.
4. Disconnect 4 Inverter wires between the panel and the CN2, 3, 4, 5 connectors on the Inverter PCB.
5. Disconnect the Interface wire (30P) between the panel and the CN301 connector on the Main PCB.
6. Remove 2 screws on the Main PCB and 2 screws on the Inverter PCB and 2 screws on the Power Adapter PCB.
7. Disconnect the 12P harness between CN1 connector on the inverter and CN104 connector on the Main PCB.
8. Carefully lift the Main PCB Assembly and Inverter PCB and place them on a flat, level surface that is protected from static electricity

3-1-3 Disassembly (GH17A*)

Reassembly procedures are in the reverse order of Disassembly procedures.



1. Push the jig deep in the opening hole



4. Rear cover until it opens.



2. Push down the jig and pull up the rear cover till it opens.



3. Do the step 2 in opposite side until it opens.

3-2 Disassembly (GH17L ***J)

- Cautions:**
1. Disconnect the monitor from the power source before disassembly.
 2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.

3-2-1 Removing the Stand

1. With a pad beneath it, stand the monitor on its front with the screen facing downward and the base close to you. Make sure nothing will damage the screen.
2. Remove the 4 screws on the Stand.

Caution: Be careful. The signal cable and power cable are still attached to the monitor.

3. Disconnect the Signal Cable and Power Cord.

3-2-2 Main Body Disassembly

1. Remove 5 screws on the Rear Cover.
2. Pull the Rear Cover up and off the monitor.
3. Remove 7 screws on the PCB Shield.
4. Disconnect the Function PCB wire(10P) between the Function PCB and the CN103 connector on the Main PCB.
5. Disconnect 4 Inverter wires between the panel and the CN2, 3, 4, 5, connectors on the Inverter PCB.
6. Disconnect the Interface wire(30P) between the panel and the CN301 connector on the Main PCB.
7. Remove 2 screws on the Main PCB and 2 screws on the Inverter PCB and 2 screws on the Power Adapter PCB.
8. Disconnect the 12P harness between CN1 connector on the inverter and CN104 connector on the Main PCB.
9. Carefully lift the Main PCB Assembly and Inverter PCB and place them on a flat, level surface that is protected from static electricity.
10. Remove 3 screws on the Function PCB from the Front Cover and remove the Function PCB and Function Knob.

3-3 Reassembly

Reassembly procedures are in the reverse order of Disassembly procedures.

5 Troubleshooting

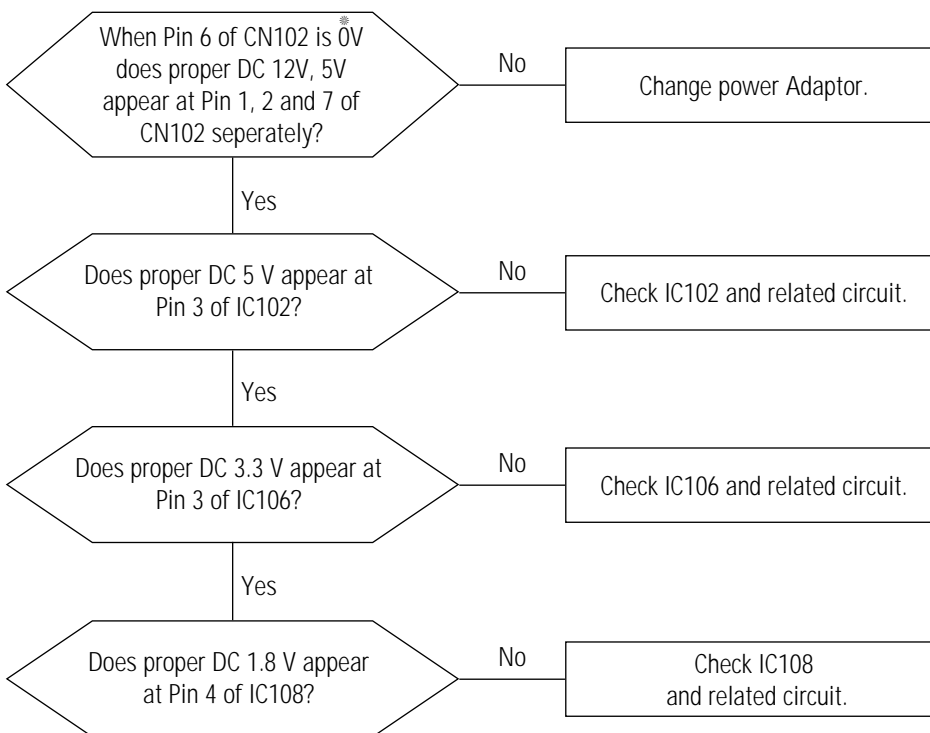
Notes: 1. Before troubleshooting, setup the PC's display as below.

- Resolution: 1280 x 1024
- H-frequency: 64 kHz
- V-frequency: 60 Hz

2. If no picture appears, make sure the power cord is correctly connected.

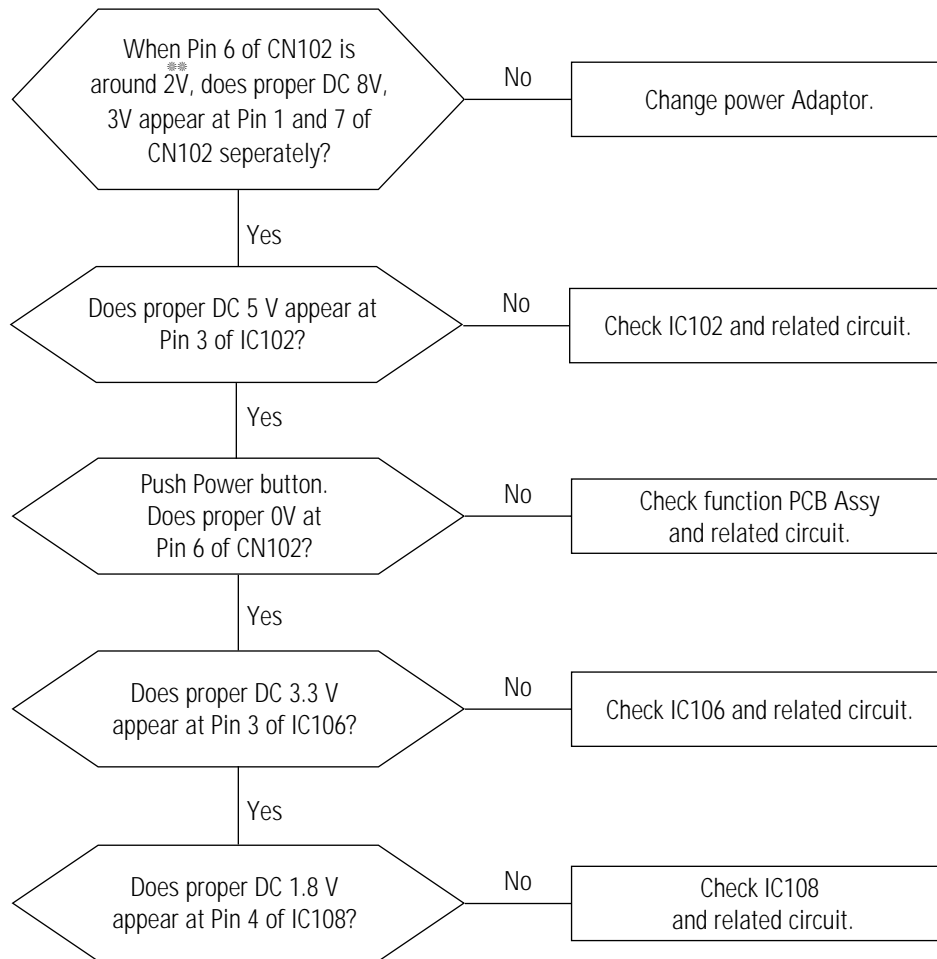
3. If you push and hold the EXIT button for more than 5 seconds, the monitor automatically turns back to the factory preset.

5-1-1 No Power



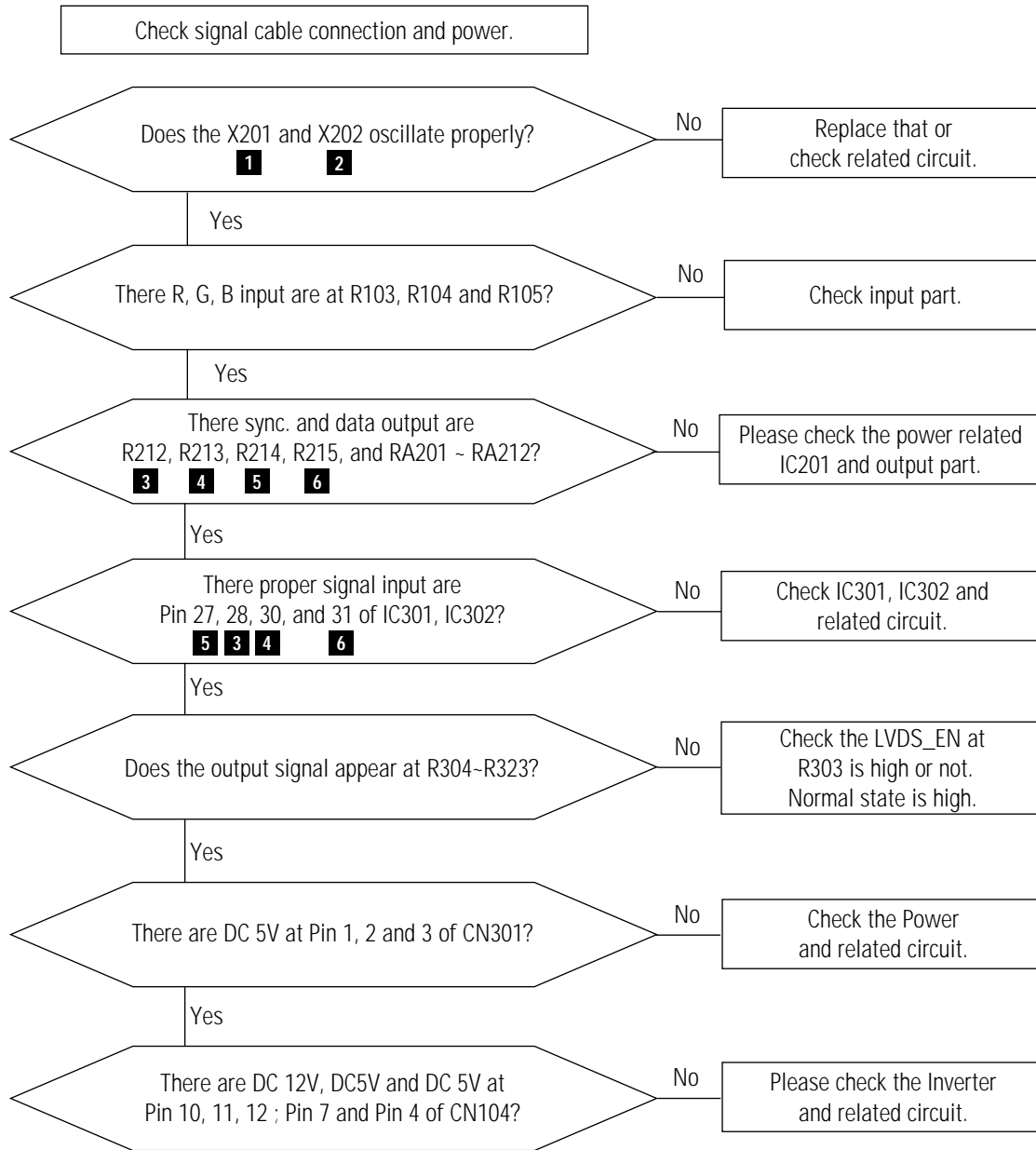
* 0V means power on state.

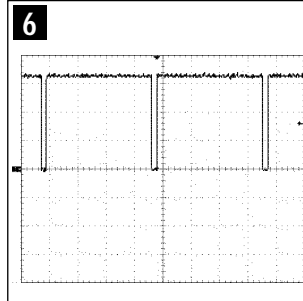
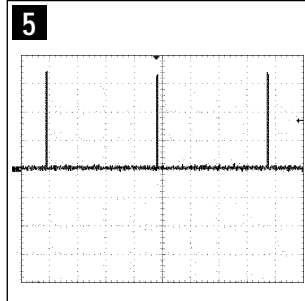
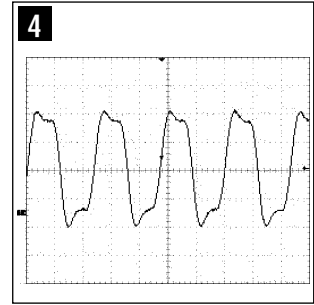
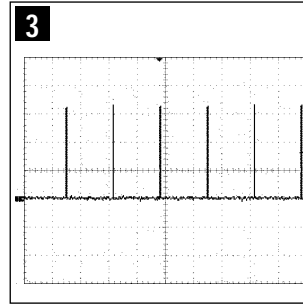
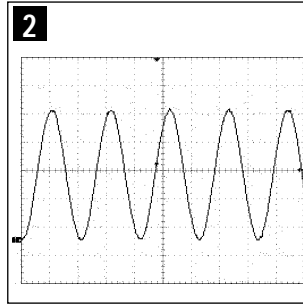
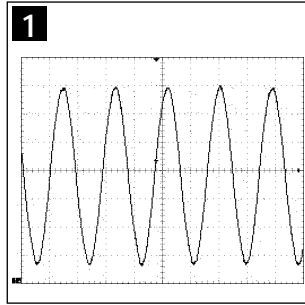
5-1-2 No Power



※※ 2V means soft power off or DPMS state.

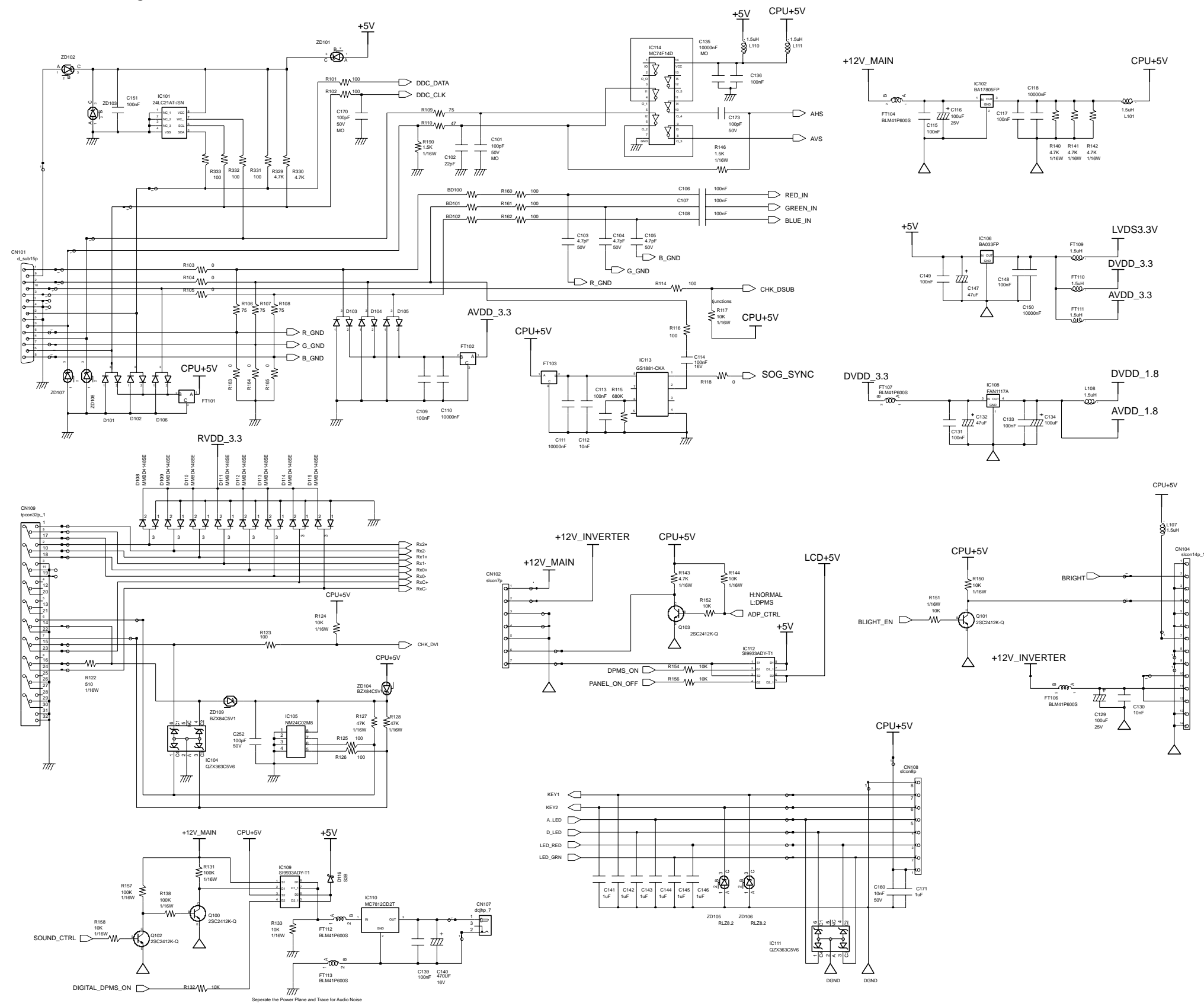
5-2 No Video



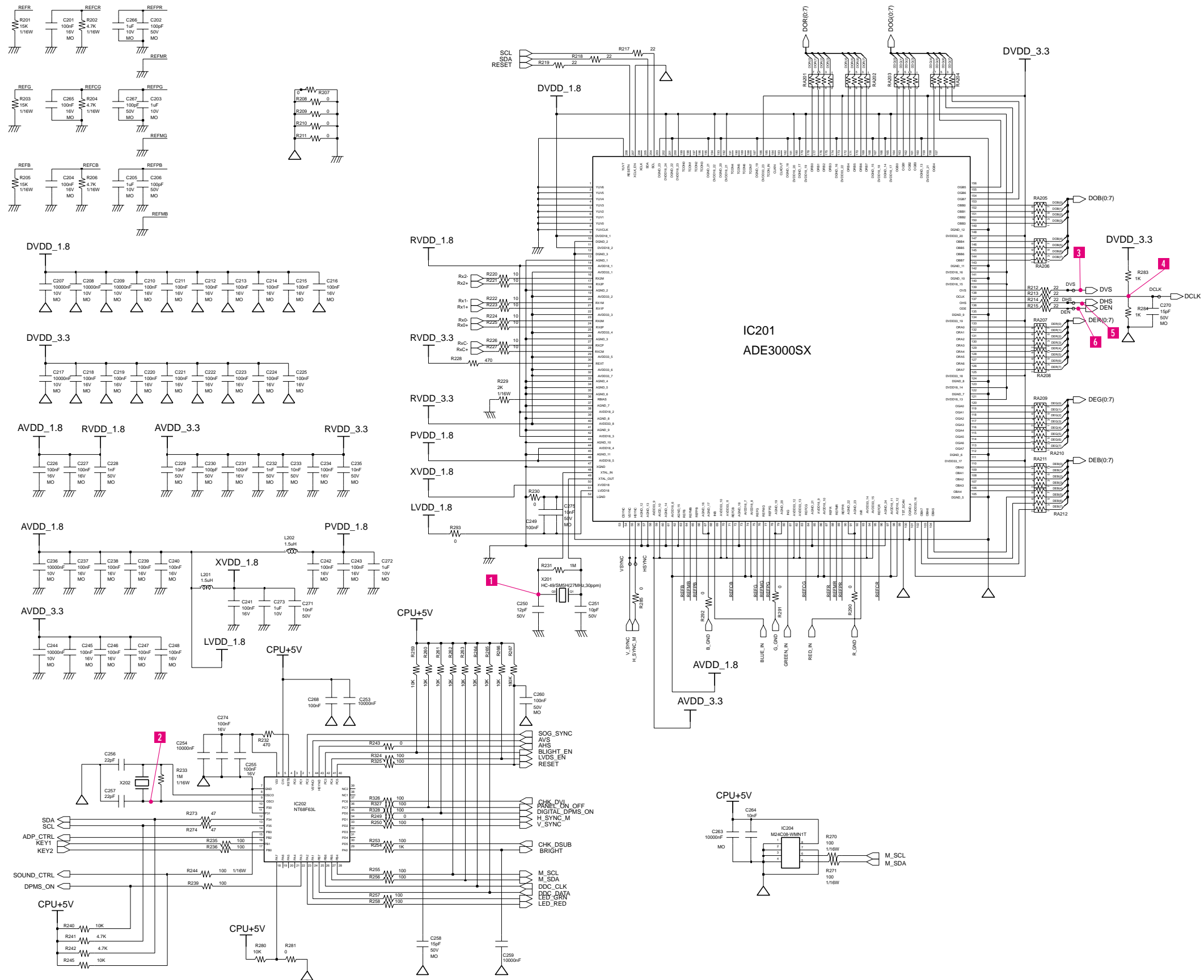
WAVEFORMS

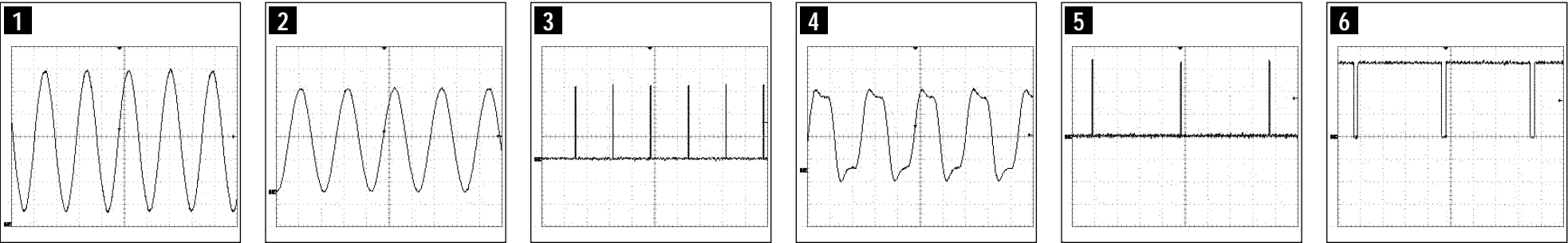
10 Schematic Diagrams

10-1-1 GH17A* Part Schematic Diagram

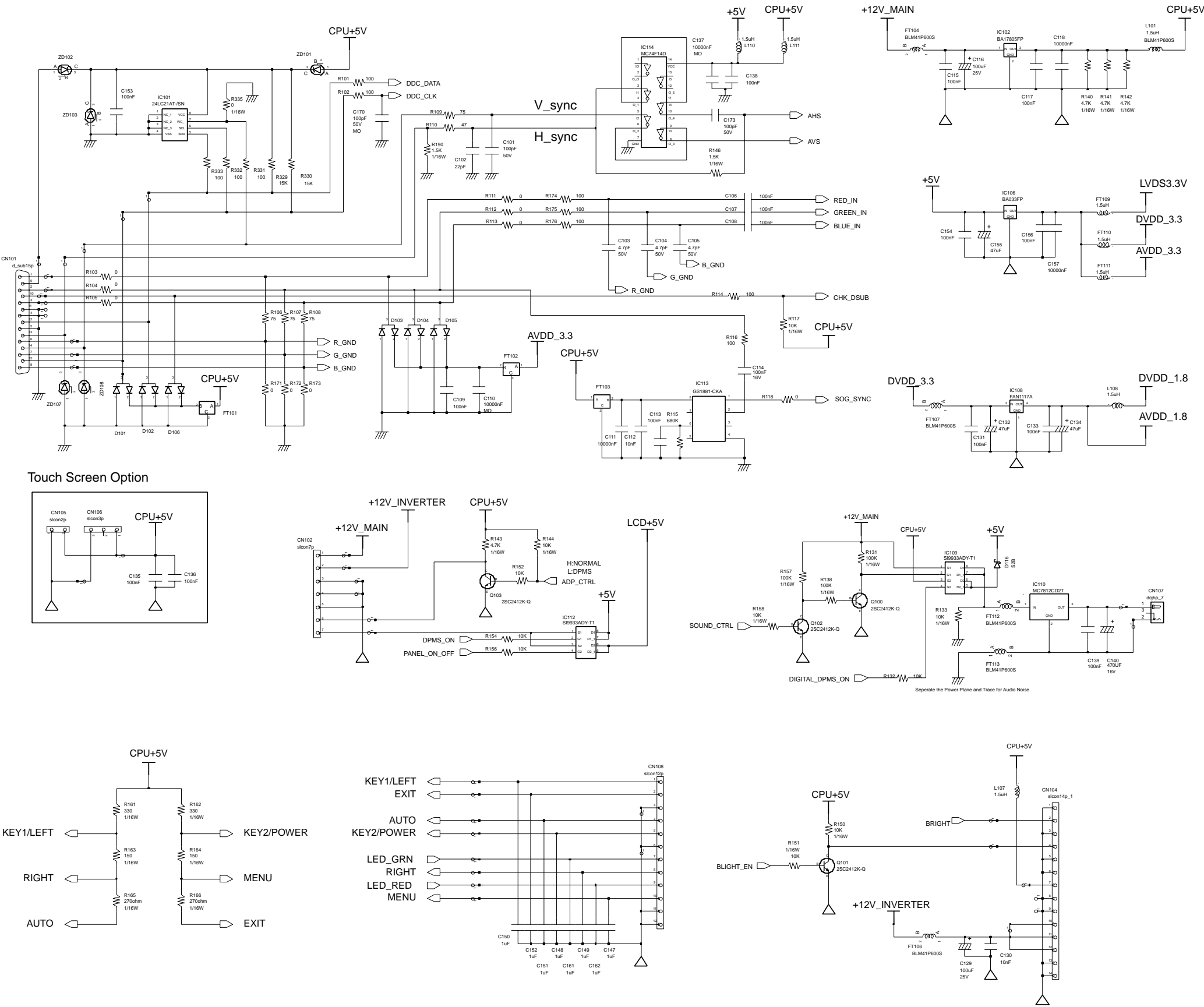


10-1-2 GH17A* Part Schematic Diagram

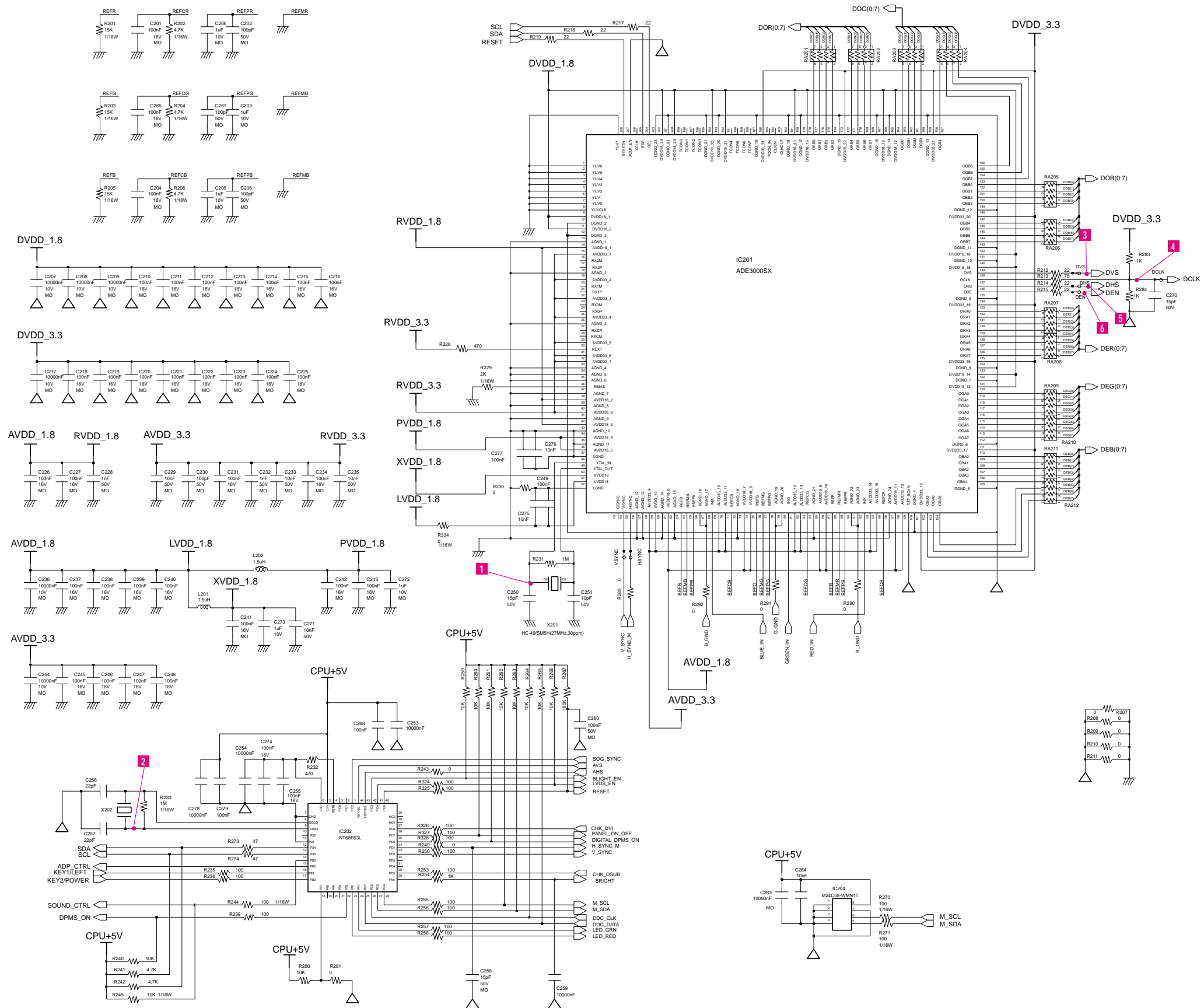


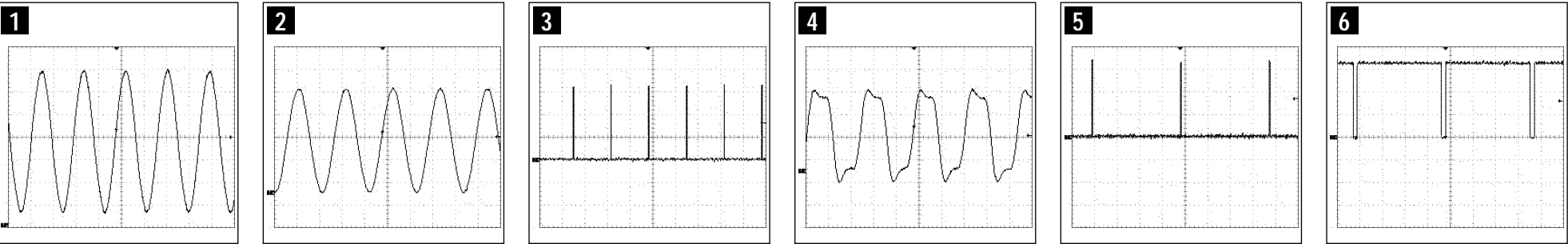


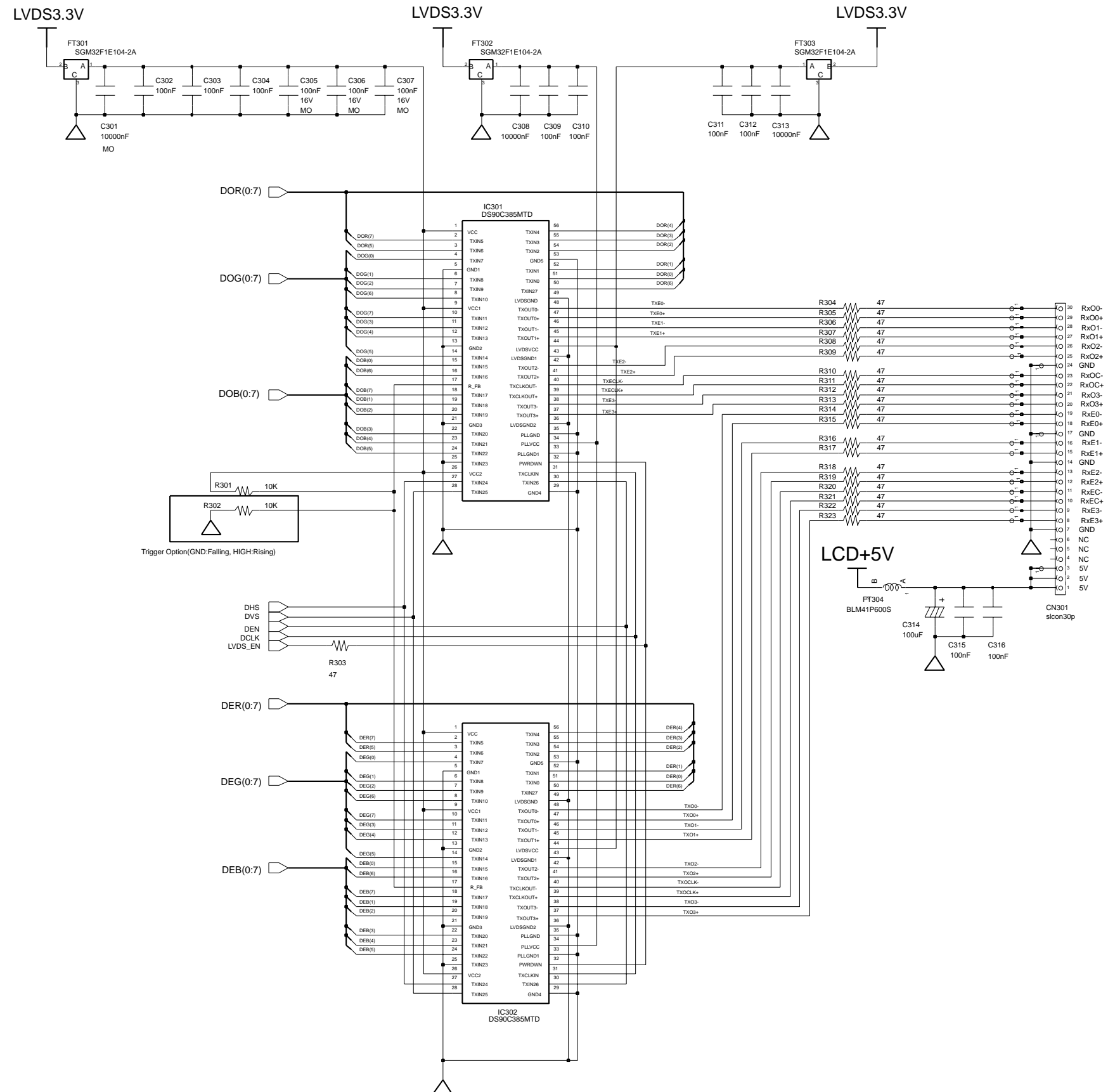
10-2-1 GH17L ***J Part Schematic Diagram



10-2-2 GH17L ***J Part Schematic Diagram









Samsung Electronics Co.,Ltd.

416, Maetan-3Dong, Paldal-Gu, Suwon City, Kyungki-Do, Korea.

Printed in Korea

P/N : BN82-00073C-00

<http://www.samsungmonitor.com> (SyncMaster Worldwide)

<http://www.samsung-monitor.com> (SyncMaster USA)

<http://www.sec.co.kr/monitor> (Korea)